

# PATENT COOPERATION TREATY

From the  
INTERNATIONAL SEARCHING AUTHORITY

To:

see form PCT/ISA/220

PCT

## WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1)

Date of mailing  
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference see form PCT/ISA/220		<b>FOR FURTHER ACTION</b> See paragraph 2 below	
International application No. PCT/EP2004/012885	International filing date (day/month/year) 13.11.2004	Priority date (day/month/year) 21.11.2003	
International Patent Classification (IPC) or both national classification and IPC A61B6/14			
Applicant TROPHY RADIOLOGIE			

1. This opinion contains indications relating to the following items:

- Box No. I Basis of the opinion
- Box No. II Priority
- Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- Box No. IV Lack of unity of invention
- Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- Box No. VI Certain documents cited
- Box No. VII Certain defects in the international application
- Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

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**Box No. I Basis of the opinion**

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.  
 This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
  - a. type of material:  
 a sequence listing  
 table(s) related to the sequence listing
  - b. format of material:  
 in written format  
 in computer readable form
  - c. time of filing/furnishing:  
 contained in the international application as filed.  
 filed together with the international application in computer readable form.  
 furnished subsequently to this Authority for the purposes of search.
3.  In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

**Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or  
industrial applicability; citations and explanations supporting such statement**

1. Statement

Novelty (N)	Yes: Claims	
	No: Claims	1-118
Inventive step (IS)	Yes: Claims	
	No: Claims	1-118
Industrial applicability (IA)	Yes: Claims	1-118
	No: Claims	

2. Citations and explanations

**see separate sheet**

1. Reference is made to the following documents:  
**D1: US-A-5 572 566 (SUZUKI ET AL) 5 November 1996 (1996-11-05)**  
**D2: WO 03/032839 A (AFP IMAGING CORPORATION; SEAMUS, CARROLL; CHRISTER, FROJDH) 24 April 2003 (2003-04-24)**  
**D3: GB-A-2 371 196 ( SIMAGE OY) 17 July 2002 (2002-07-17)**  
**D4: US-A-5 519 437 (NELVIG ET AL) 21 May 1996 (1996-05-21)**
2. Although **claims 1, 21, 26, 42, 60, 67, 74, 87 and 111** have been drafted as separate independent claims, they appear to relate effectively to the same subject-matter and to differ from each other only with regard to the definition of the subject-matter for which protection is sought and in respect of the terminology used for the features of that subject-matter. The aforementioned claims therefore lack conciseness and as such do not meet the requirements of Article 6 PCT.
3. According to the above point, only claim 1 will be examined in details.  
The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of **claim 1 does not involve an inventive step** in the sense of Article 33(3) PCT.

Document D1, which is considered to represent the most relevant state in the art, discloses a :

dental radiology apparatus, characterized in that it comprises:

- an **intraoral sensor** (image device 2b, figure 1) comprising a detector that includes an active pixel array (see column 9, lines 42-45) produced and converting received x-rays into at least one analog electrical output signal,
- an **electronic module** (image processor 4, figure 1) encapsulated in a case and which has at least one detector activation device (see column 10, lines 26-40), the module being linked to the sensor by a wire link for the transmission to said sensor of a detector activation signal generated in the module and for the transmission to the module of said at least one analog electrical output signal, the module having analog-digital conversion (converter 35, figure 4) means of said at least one analog electrical output signal into at least one digital output signal,
- a **remote processing and display unit** (monitoring device 5, figure 1) of said at least one digital output signal which is linked to the electronic module by a wire link (signal

cable 3, figure 1) intended to ensure the transmission to the unit of said at least one digital output signal.

The **apparatus** described in independent claim 1 differs from that disclosed in document D1 in that the **detector includes an active pixel array produced using biCMOS technology**.

The technical problem to be solved by the invention can thus be stated as that of providing a detector with an **improved signal-to-noise ratio**.

The solution proposed in claim 1 of the present application cannot be considered as involving an inventive step (Articles 33(1) PCT) for the following reason:

Document D2 pertains to a X-ray imaging apparatus comprising a BiCMOS detector (page 2, abstract).

D2 refers to the same kind of device as D1. The skilled person would therefore consider to include said feature of D2 in the device described in document D1 in order to solve the problem.

4. **Dependent claims 2-20** contain either features known per se from the prior art or being simple constructional features. Thus they would only satisfy Art. 33(2),(3) PCT when referring to a patentable independent claim.
5. In order to facilitate the examination of the conformity of the amended application with the requirements of Art. 34(2)(b) PCT, the applicant is requested to clearly identify the amendments carried out, no matter whether they concern amendments by addition, replacement or deletion, and to indicate the passages of the application as filed on which these amendments are based (see also Rule 66.8(a) PCT).

If the applicant regards it as appropriate these indications could be submitted in handwritten form on a copy of the relevant parts of the application as filed.

**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING  
AUTHORITY (SEPARATE SHEET)**

International application No.

**PCT/EP2004/012885**